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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/080,869	CHOW ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andrew C. Lee	2619	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 1/09/2008.
2. ☒ The allowed claim(s) is/are 1-48.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
|---|---|

## DETAILED ACTION

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jonathan S. Miller on 2/01/2008.

2. The application has been amended as follows:

Specification paragraph [0070] is amended as following:

[0070] The line cards and control cards included in the different network elements include memories, processors and/or Application Specific Integrated Circuits (ASICs). Such memory includes a machine-readable medium on which is stored a set of instructions (i.e., software) embodying any one, or all, of the methodologies described herein. Software can reside, completely or at least partially, within this memory and/or within the processor and/or ASICs. For the purposes of this specification, the term "machine-readable medium" shall be taken to include any mechanism that provides (i.e., stores and/or transmits) information in a form readable by a machine (e.g., a computer). For example, a machine-readable medium includes read only memory (ROM); random access memory (RAM); magnetic disk storage media; optical storage media; or flash memory devices [;] ~~electrical, optical, acoustical or other form of propagated signals (e.g., carrier waves, infrared signals, digital signals, etc.); etc.~~

Claim 11 is amended as following:

11. A method comprising:

sequentially selecting a pair of ports from a plurality of pairs of ports, the plurality of pairs of ports comprising a first plurality of ports included in a first interface and a second plurality of ports included in a second interface, wherein the pair of ports comprises a port connected to the first interface and a port connected to the second interface; transferring data on the port connected to the first interface during a current cycle; and transferring data on the port connected to the second interface during the current cycle; and updating the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value.

Claim 34 is amended as following:

34. A computer-readable medium that stores instructions that, when executed by a computer, cause the computer to perform operations comprising:

sequentially selecting a pair of ports from a plurality of pairs of ports, the plurality of pairs of ports comprising a first plurality of ports included in a first interface and a second plurality of ports included in a second interface, wherein the pair of ports comprises a port connected to the first interface and a port connected to the second interface; transferring data on the port connected to the first interface during a current cycle; and transferring data on the port connected to the second interface during the current cycle; and updating the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the

number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value.

***Allowable Subject Matter***

3. Claims 1 – 48 are allowed.

**REASONS FOR ALLOWANCE**

4. The following is an examiner's statement of reasons for allowance:

The prior art made of record, in single or in combination, does not disclose explicitly the limitations of:

“transferring data on a first port during a current cycle until a predetermined number of bytes less an overshoot value for the first port has been transferred on the first port; continuing to transfer data on the first port during the current cycle until a complete packet has been transferred on the first port; and updating the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value” as disclosed in claim 1;

“upon determining that a number of bytes transferred on a first port during a current cycle is not greater than a predetermined number of bytes less an overshoot value for the first port and a packet was not transferred by the first port during the current cycle, maintaining the overshoot value for the first port; and upon determining that a number of bytes transferred on a first port during a current cycle is not greater than the predetermined number of bytes less the overshoot value for the first port and a packet was transferred by the first port during the current cycle, setting the overshoot value

to zero, the overshoot value to be used to balance bandwidth on the first port during a subsequent cycle” as disclosed in claim 7;

“upon determining that a packet may be transferred on a first port during a current cycle, transferring data on the first port during the current cycle until a predetermined number of bytes less an overshoot value for the first port has been transferred on the first port; upon determining that a packet has been partially transferred on the first port during the current cycle, continuing to transfer data on the first port during the current cycle until a complete packet has been transferred on the first port; and updating the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value” as disclosed in claim 8;

“upon determining that the number of bytes transferred on a first port during a current cycle is not greater than a predetermined number of bytes less an overshoot value for the first port, reducing the overshoot value for the first port by a number of bytes transferred by the first port during the current cycle less than the predetermined number of bytes less the overshoot value for the first port; and upon determining that the reducing would cause the overshoot value for the first port to become negative, adding the predetermined number of bytes to the overshoot value for the first port” as disclosed in claim 10;

“sequentially selecting a pair of ports from a plurality of pairs of ports, the plurality of pairs of ports comprising a first plurality of ports included in a first interface and a second plurality of ports included in a second interface, wherein the pair of ports comprises a port connected to the first interface and a port connected to the second interface; transferring data on the port connected to the first interface during a current cycle; and transferring data on the port connected to the second interface during the current cycle; and updating the

overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value" as disclosed in claim 11;

"a first port to transfer data during a current cycle until a predetermined number of bytes less an overshoot value for the first port has been transferred on the first port and to continue to transfer data during the current cycle until a complete packet has been transferred on the first port; and a first residue counter coupled with the first port to update the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value" as disclosed in claim 14;

"a plurality of pairs of ports wherein a pair of ports comprises a port connected to a first interface to transfer data during a current cycle and a port connected to a second interface to transfer data during the current cycle; a bandwidth balancing arbiter coupled with the plurality of ports to sequentially select each pair of ports of the plurality of pairs of ports to transfer data during the current cycle; and a pair of reserved ports connected to the first interface, wherein the pair of reserved ports are to transfer data during the current cycle before each pair of ports selected by the bandwidth balancing arbiter" as disclosed in claim 22;

"transferring data on a first port during a current cycle until a predetermined number of bytes less an overshoot value for the first port has been transferred on the first port; continuing to transfer data on the first port during the current cycle until a complete packet has been transferred on the first port; and updating the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes

transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value” as disclosed in claim 25;

“upon determining that a number of bytes transferred on a first port during a current cycle is not greater than a predetermined number of bytes less an overshoot value for the first port and a packet was not transferred by the first port during the current cycle, maintaining the overshoot value for the first port; and upon determining that a number of bytes transferred on a first port during a current cycle is not greater than the predetermined number of bytes less the overshoot value for the first port and a packet was transferred by the first port during the current cycle, setting the overshoot value to zero, the overshoot value to be used to balance bandwidth on the first port during a subsequent cycle” as disclosed in claim 31;

“upon determining that a packet may be transferred on a first port during a current cycle, transferring data on the first port during the current cycle until a predetermined number of bytes less an overshoot value for the first port has been transferred on the first port; upon determining that a packet has been partially transferred on the first port during the current cycle, continuing to transfer data on the first port during the current cycle until a complete packet has been transferred on the first port; and updating the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value” as disclosed in claim 32;

“sequentially selecting a pair of ports from a plurality of pairs of ports, the plurality of pairs of ports comprising a first plurality of ports included in a first interface and a second plurality of ports included in a second interface, wherein the pair of ports comprises a port connected to the first interface and a port connected to the second interface; transferring data on the port connected to the first interface during a current cycle; and transferring data

on the port connected to the second interface during the current cycle; and updating the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value" as disclosed in claim 34;

"upon determining that the number of bytes transferred on a first port during a current cycle is not greater than a predetermined number of bytes less an overshoot value for the first port, reducing the overshoot value for the first port by a number of bytes transferred by the first port during the current cycle less than the predetermined number of bytes less the overshoot value for the first port; and upon determining that the reducing would cause the overshoot value for the first port to become negative, adding the predetermined number of bytes to the overshoot value for the first port" as disclosed in claim 37;

"at least one line card coupled to receive data, wherein the at least one line card comprises, a first port to transfer the data during a current cycle until a predetermined number of bytes less an overshoot value for the first port has been transferred on the first port and to continue to transfer the data during the current cycle until a complete packet has been transferred on the first port; and a first residue counter coupled with the first port to update the overshoot value for the first port based on the number of bytes transferred on the first port in excess of the predetermined number of bytes less the overshoot value, wherein the number of bytes transferred on the first port during the current cycle is in excess of the predetermined number of bytes plus the overshoot value" as disclosed in claim 38;

"at least one line card coupled to receive data, wherein the at least one line card comprises, a plurality of pairs of ports wherein a pair of ports comprises a port connected to a first interface to transfer data during a current cycle and a port connected to a second



interface to transfer data during the current cycle; a bandwidth balancing arbiter coupled with the plurality of ports to sequentially select each pair of ports of the plurality of pairs of ports to transfer data during the current cycle; and a pair of reserved ports connected to the first interface, wherein the pair of reserved ports are to transfer data during the current cycle before each pair of ports selected by the bandwidth balancing arbiter" as disclosed in claim 46.

5. Additionally, all of the further limitations in claims 2 – 6, 9, 12 – 13, 15 – 21, 23 – 24, 33, 35 - 36, 39 – 45, 47 – 48 are allowable since they are dependent upon independent claims.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C. Lee/::<1/22/2008>

EDAN . ORGAD  
SUPERVISORY PATENT EXAMINER

